

IX. REMARKS with Illustrations of the ERODED SHUTTLE, or NUT-BONE, (*os nuciforme*) of the Horse's Foot. (*Nucimalum.*)

FIG. 1. gives a representation of the Shuttle, or Nut-bone of the Horse's foot, in a state of erosion. This example was carefully drawn from the natural bone, by my esteemed friend, A. S. Rogers, of Knightsbridge, veterinary surgeon, and affords an admirable view of the ravages upon this bone, made by this disorder.

The ulceration is seen to occupy nearly all the middle space of the inferior surface of the bone, where the perforans tendon is passing beneath it, in order to be inserted in the hollow space, or triangular recess provided for it in the coffin bone beneath. In the more smooth and elevated parts, surrounding the ulcers, were seen, the draughtsman observed, in the recent subject, many small freckled points, or elevations of bone, of a white pulverulent character, which very much disappeared on the drying of the bone, and make but little or no appearance in the representation. These points, we are led to suspect, were irritated portions of the surface of the bone, which had only commenced their first step towards becoming ulcers; or they might be earthy osseous deposits from the discharges of the ulcers themselves. The larger ulcers are at present but superficial, not extending deeply into the bone, and are exceedingly ragged and irregular in their external margins, or edges, and assuming no determinate figure; and appear to consist of the removal of the smooth cartilaginous external covering of the bone, together with a thin portion also of the osseous part. This representation is highly characteristic of the disease in its recent state, and as being the work of a young self-taught artist, has been deservedly admired. It is evidently the bone of a pretty large foot; and we believe cart-horses, and others of the larger order of feet, are the most subject to be so disordered.

The coffin-bone, it may be remarked, although exposed to the operation of the same causes as the above bone, does not appear to partake of the disease, which may arise, perhaps, from the extensiveness of its surface, and, possibly from its being defended by a thick spongy vascular sole; the vessels intersecting each other, and anastomosing in all directions, and yielding consequently, to the smallest compression; and thus the bone beneath is perhaps saved from the cruel oppression of the shoe, when rammed violently on, and clenched with great force, which, I have been led to conjecture, is the real source of this terrible disease. Whilst the above bone, the Shuttle or Nut-bone being in itself of a less spongy and harder nature, and withal having a considerable share of motion in performing its office, that of allowing the main flexor tendon to work upon it, as over a pulley, diminishing friction, and moving also slightly in accordance with such demands, so it prevents that resistance, friction, and jar, which would otherwise take place at this important part. Its pressure is however considerable naturally, from the Nut-bone being projected backwards. The tendon itself, which is of a tolerably hard and unyielding substance, being driven by such forcible measures as nails, hammering, and clenching can give, against the surfaces of this bone, an undue degree and severity of pressure take place, and friction also between the bone and tendon is the consequence; and in some cases, where from certain circumstances attending the structure of the particular feet operated upon, there is cause to believe it will arrest all motion of the tendon, and a violent inflammation ensues, and adhesion of the two bodies sometimes, at others ulceration only; or, indeed, both can take place at once: and in the present case, the ulcers would seem to indicate that it had been attended with a previous adhesion of the tendon, which, torn up by some sudden effort, exhibits the ulcers beneath, as we now see them. The internal surface of the tendon, in contact with this bone, is also of a hard and almost cartilaginous, or ligamentous, surface rather.

FIG. 2. is also a representation of the same disease, but here the coffin-bone is thrown downward, and forward, and inverted; the sole being uppermost, and behind the tendon, which is torn up from its situation and bent back, the better to expose the disease in question: the condyloid cavities, with their elevated middle ridge, are exposed in the lowest part of the figure. The tendon above appears ragged and enlarged, as though it had been broken and united by callous; it was found adherent to its coverings. Much dark-coloured grumous blood was stated to have been found about this enlarged part of the tendon. The ulceration of the Nut-bone is here confined pretty much to one side of the bone, and exhibits great irregularity in the figure of the ulcers.

FIG 3. we selected as exhibiting what may be supposed the very earliest visible derangement of the parts from the effects of the disorder, or first stage of the disease; there being as yet, no positive ulceration, but only a brown oblong patch, commencing disease, composed very much of brownish lines or patches, as though the articular cartilage was breaking up, or as though a morbid acrimonious fluid was irritating and dissolving the surfaces, and attacking the osseous part also. White patches of a similar nature may be also seen scattered upon the tendon, whose internal surface is here exposed by its being detached from the nut bone, and bent back; and by this reflection discovers to advantage the disorder.

FIG. 4. The tendon here also has been disengaged and bent back, in a similar manner to the preceding; and a good view of the posterior surface of the os nuciforme is thus obtained; and, with the succeeding figures, was procured and prepared by my esteemed friend, Charles Wallis, veterinary surgeon, and formerly the intelligent apprentice of my nephew, Charles Clark, of Giltspur-street. In these three figures the lowest part, which is of a somewhat oblong triangular appearance represents, by this manner of exhibiting them, that surface of articulation of the Shuttle-bone, which comes into contact, or uniform apposition at least, with the upper posterior surface of the coffin-bone; presenting a flattish, narrow, oblong surface to that bone, rounded however above, for a slight motion on it.

This bone represents a much more suffering state than the preceding examples, and the ulcers appear to be deeper, and especially those which occupy the middle parts of the bone. It appears to us not improbable that the depth of these ulcers will depend not only on the degree of force, or of compression and fixation of the tendon, but also on the more or less facility of escape of the acrid fluids generated by the inflammation, and which would cause perhaps, the central ones, more especially, to be deeper generally than the lateral ones. Blood appears to have escaped also in this case, from the corroded and exposed vessels of the bone, and has communicated a darker tinge to the representation; and the bone itself was reddened also in patches, apparently from the extravasated and congested blood; and stripes, or streams, and clouds of a dead whitish matter appear to be deposited upon the internal surface of the tendon; arising probably, from abraded bone imperfectly dissolved in the secretions, or discharges, of the part, which, in drying, became still whiter; and these drawings were taken from the dried specimens. Neither can we help adverting here to the miserable state of suffering an animal must experience, with an ulceration of this kind going on in a point so peculiarly exposed to friction and pressure, which must be almost intolerable! Such defects as these, with others we have formerly exhibited, would go nigh to shew a necessity for revising the whole line of these proceedings, and of changing the system to something of a less inimical character to the feet; not only on account of the worthy animals themselves, and their sufferings, but the precarious tenure of this kind of property when so subject to damage; the lives also, and injuries to which the public are ever exposed through it. To which may be added the severe bitings and whippings they receive, independently of the pains of their feet from such ulcerations, in order to overcome and to conceal, as much as may be, those sufferings.

FIG. 5. Here the ulceration is almost wholly confined to the central parts of the bone, and appear to be excessively deep; having much of the white deposit lodged about it, and which is also seen on the inner surface of the tendon, exposed by being disengaged and turned up. Numerous other examples of bones only, without the tendons being prepared along with them, have we seen; but as they had been much boiled, and perhaps changed, so we have preferred the present more recent specimens for representation.

Having described and exhibited the appearances the disease makes in the foot of the horse, when attacked with this disorder, we now take a glance at the probable causes of its taking place; which do not appear, by those formerly engaged in describing it, to have been much perceived.

At the time of my writing the Podophthora, where I described the more common and usual disasters attending feet under common shoeing, an example of this complaint had not then occurred to me, and my first searches after it were so unfruitful, that I believed it a truly rare mischief; as did also the researches after it of my friends, lead to the same conclusion. Now,

however, I am sorry to say, that I find it not so unfrequent as I had imagined; and cases of it, in sufficient abundance, have been brought me of late, procured without the trouble of unhoofing the foot, or of macerating it, or of any troublesome dissection of it; this can be done by simply introducing the scalpel between the tendon and bone, carrying it down to the foot within the cartilages, to the joint formed between the nut and coffin-bone, and then detaching the former, and along with it the dilated termination of the *perforans* tendon, inserted in the hollow recess of the coffin-bone.

We may then perceive that the above tendon is sending off from its anterior surface a broad lax ligament, which, passing forwards, is strongly attached to the whole transverse upper edge or summit of the nut bone, adhering to its roughened surface; this ligament, however, does not itself adhere to the bone, but is forming a smooth strip of nearly cartilaginous consistence, which is attaching it to the bone, not only perhaps for greater strength, but, as we apprehend, to prevent this lax ligament from getting entangled in the joint.

This important ligament then advancing, surrounds both extremities of the bone, and becomes the immediately enclosing or capsular ligament of the joint; and having great power of extension backwards, can accommodate any movement of the shuttle bone in this direction, or of any quantity of synovia, which undue use of the animal may at times induce.

We have now to consider farther an important circumstance that also has not, that we know of, been noticed of this same ligament, viz. that it is passing below, in surrounding the extremities of the nut-bone, and so adheres to them as to make the tendon with the bone form a sort of flat pocket or pouch, apparently for enclosing the synovia more securely, and strengthening and restraining their combined action. Now, by slitting-up these lateral attachments we get at the posterior superficies of the nut-bone, which is not flat to the horizon, but is making an angle of about 40°; adapting itself to the inflexure of the tendon surrounding it, which is immediately passing for insertion into the angular recess of the coffin-bone.

The surface of this tendon, exposed to the superficies of the nut-bone, is of a hardish texture and thready, or fibrous, the fibres longitudinally disposed, and its surface of contact is of a glossy or silky appearance, and its action or motion upon the surface of the opposed bone, must be constantly regulated and limited by the laxity of the above ligament; so that in fact it would appear that this nut-bone, and its loose ligament, is dividing the capsular ligament into two parts, or an upper and lower chamber,—a structure, we believe, not rightly perceived or understood before.

A remarkable structure is also seen with the front parts of the nut-bone; viz. a longitudinal depression extending the whole length nearly of the bone, having cells and columns of bone within it. The use of such structure was not at once obvious to us; but on further reflection we believe it to be a necessary protection in regard to the attachment of this bone with the coffin-bone, permitting, by this provision, a wider gaping or separation of this bone from the coffin-bone, on any violent exertion of the animal, throwing the condyles of the coronet bone backwards towards the heels, or upon this separated bone, and which a stricter union would have denied, or at least rendered dangerous. A projecting lip for attachment, beneath this provision, is very well seen in Pl. XII, a supplementary plate to the Podonomia, in a transverse section of these parts: and above the lax ligament above described, on the front surface of the perforans, may be observed two lighter-coloured bodies with a longitudinal depressed line between them, which appear to act as cushions in saving the tendon from the friction of the posterior condyles of the coronet bone, and which, passing into the hollow space between them, regulate in some degree its actions. We call them the *eminentes cordiformes* of the perforans tendon.

The bone of the sole, one might suppose, would be also subject to similar affections from this upward pressure of the shoe, but at present we do not know of any examples of it; and certainly, we may remark, this part would be less liable to be injured, from being, as we have stated, very thickly covered over with an highly elastic yielding membrane, spongy, and everywhere filled with fluid blood, the vessels of which ramifying and anastomosing in all directions, enable these fluids to recede on receiving pressure. We think, however, we have witnessed some changes to have been also wrought in this part, by its becoming more cupped, thinner, and

more concave from this violent upward pressure, than they ought to be in their perfectly natural state; the lower surface of the coffin-bone also, that is to say, the solear superficies is particularly of a hard flinty character, so as to resist any change much more so than would any soft and more porous bone.

That the Shuttle-bone becomes diseased with ulcers from the upward pressure of the shoe, we entertain but little doubt; since there appears no other cause at all adequate to such a grievous effect.

In our description of the above supplementary plate, we urged that, as the commissures of the hoof were the most prominent parts in the upwards direction of it, so these might be expected to make the first impression upon the parts above, and would account for the more lateral injuries. And as the more central ones would be more under the direct influence and pressure of the body of the furch, they would also be pushed up along with the sole; and since this body of horn gets wofully sliced, cut, and nearly denuded, so the remainder of its horn, rendered unable to resist the drying of the atmosphere, and of hot close stables, becomes of a hardness almost equal to the wall of the hoof; and in this state, if driven, at every step, or on meeting a convex body in the road, against these suffering parts, will become a chief cause of those deeper ulcerations in the middle parts of the bone, as seen in Figures 1, 4, 5. Or it may happen, and which we think not by any means improbable, that in some cases it might be occasioned, or exasperated at least, by the animal, from the various pains inflicted on the sides and posteriors of the foot by nails, would be induced, as much as possibly he could, to go on his toe, and make that perform nearly the whole business of the foot. This would throw a strain upon the back sinew, or flexor perforans tendon, occasioning a strong compression of it against these tender and exposed parts; for the nuciform bone is working by means of the lax ligament as a sort of pulley against the tendon, giving it thereby a greater purchase upon the parts to which it is finally attached. By raising the heels they certainly are less subject to pressure and shocks from the ground upon these tender parts, still by so doing, the strain on the tendon and bone will be much greater.

It may be also matter of inquiry whether strong pressure on the frog, such as that, for instance, recommended at the Veterinary College, under Coleman, would not induce such a complaint: such would be the case, we are convinced, with his frog bar machine, if attached and strongly nailed to the horse's foot: and that this lesson of early folly in the art should not be lost sight of, or be ever again repeated, to the annoyance of the horses or of the public, we have procured one of his patent shoes, according to his latest refinements upon it, and have had a figure of it most faithfully drawn by our friend George Kirtland, and which is seen at fig. 6 of the present lithograph; and displays such powers of inflicting pressure on this tender part, as must make one shudder to think of; and so thoroughly was this doctrine inculcated, that I incurred no small displeasure from the master and his very numerous pupils, for daring to call in question this now admitted absurdity.

Now, if such a solid bar of iron as is here seen was operating against a furch, hardened, perhaps, and cut, as we have described above,—and which practice of cutting was, to my certain knowledge, carried on at the College, and that till very lately,—if interdicted at present, of which I am not certain,—then I should hardly hesitate to say that such pressure would be fully adequate to produce an ulceration of these parts. I shall not here revert to my arguments, formerly used in the *Hipponomia*, respecting frog-pressure, as I would rather avoid than lengthen my paper on this subject, so heavy a loss is their publication to me; but this opinion I should not fear to undertake to maintain, if called upon so to do, before the whole world. And from what I know of the nature of these parts, the furch and all above it, I should doubt if such bar of solid iron if pressing upon them, they could endure it many hours. The only two cases of this vile machine being actually employed, that have come to my accurate knowledge, was, one of them, a horse of — Mangnal, Esq., an attorney, the under-sheriff of Middlesex, whose young horse was so shod, and stood at Mathieu's stables, in Moorfields. I declared it impossible he could long go in such shoes, if I knew aught of the horse's foot; and on inquiry, a few days after, found he had been down, and terribly cut his knees, and was taken away to Cranford-bridge, where he finally died in the field there, or enclosure, in which he was turned out. He was a very promising fine likely young horse.

The other case was described to me by my friend Cherry, veterinary surgeon of the Second Life Guards. This horse had been shod under Coleman's own direction also, at the Veterinary College, with his spit-bar patent shoe; and, afterwards, being rode, he made his way with difficulty enough, and many dangerous blunderings, carrying his owner, to my friend Cherry's forge, near Clapham Common, where they were finally removed from his feet, never more to be replaced.

Notwithstanding the absurdity of his views, physiologically considered, of the foot, and of the almost daily monitions of the unsuitableness of such shoes, yet were they still persisted in, although clearly demonstrated, years before, to be inconsistent with nature's purposes in the structure of the foot: still was this monstrous frog-squeezing doctrine constantly broached at the College; nor, that I know of, did the egregious folly of it excite much reprobation among the spectators or pupils, but on the contrary, there was a wonderful acquiescence in it, and a zealous propagation of the doctrine among them. In order, if possible, to prevent the recurrence of the folly, we here give, as a memento, a figure of this favourite shoe, of which there is not, I believe, any extant; and the following may serve as a brief description of it to future times. St. Bel, the first professor's, ideas of shoeing, and the figures of his shoes, are before the public already, and their incompetence pretty well understood; and we now add to it the second professor's, as a sort of historical record of the advances of the art by Colleges.

A flat solid bar of iron is seen (Fig. 6.) proceeding from the inside front arch of the shoe, of considerable thickness and weight, being rivetted to it, increasing in width at its posterior termination, where it receives another piece of iron, laid across it and welded, being of the width of the base of the furch, and rounded at either extremity. This part is obviously intended to carry pressure to the frog, as they called it; but finding perhaps, in former trials, the unsuitableness of such pressure, and in order to moderate it we suppose, a steel spring is seen beneath this bar in contact with the furch, and which shows the vast profundity of its proposer's plans; for, supposing such to act, the first two or three steps the horse took, must, in the course of going on the road, quickly clog it with stones and dirt, entirely preventing its action, and rendering its operation nugatory, or as one solid piece. And it must be obvious also, that the weight alone of this bungling machine would have been objection sufficient to prevent its general use, and especially towards its hind parts; for it has been formerly observed by us, that if we follow Nature's indications in the foot itself, which is lighter behind, or posteriorly, and weightier before, we must lighten and thin the shoe backwards, so as for this part to be less ponderous than the fore parts, at least in order to secure the light and pleasant going of the animal, and affording ease and elasticity to his movements. See Unilateral Shoe, Pl. VI., in our account of Expansion Shoes.

In all his former works, the necessity of a very particularly firm and secure nailing, by heads of a particular figure, was insisted on by him; but here, taught by others' labours, without the candour of an acknowledgement, the nailing is confined alone to the front parts of the foot, still backward enough to coerce and restrain the quarters of the foot, and yet not secure enough for a shoe of this length, figure, and weight. The shoe itself, also, is a pitiable defence, with evident deficiency of bearing surface—a mere appendage to the above apparatus.

Now, if the object intended by this infatuation had really been attained, what would it have produced? Only excessive pain from a too severe pressure on the furch, a part by nature comparatively soft and tender, and retired within the other envolving parts of the hoof; but neither the failure of all such attempts formerly in France or in England lately, nor his daily monitions from his own experience, nor the clearest evidence laid before him, in a physiological view of the foot, by us, which has never been in the least invalidated, could open his eyes to the absurdity of his notions, or prevent his multiplied patents, to grasp, being so badly paid, any advantages that might accrue from it. Nor was this the worst of it; for this silly doctrine was carried about and spread most assiduously, not only over the whole of this kingdom, but in our colonies also—east and west—with consequences much to be deplored. The doctrine was also made an indispensable condition of those youths receiving that vile bit of paper from this abused institution, called a diploma; and one or two, who a little wavered in acquiescing in this delusion, were, to our knowledge, much persecuted, and sent back time after time through mere spite;—so very early can tyranny seize upon an infant inexperienced institution, and exert its baneful qualities under the name, forsooth, of a College.

And lately, in looking over Lafosse's works, we were very much struck with the number of broken-bone cases he describes; that is, of the coffin-bone and coronet-bones, such as are to be seen in no other work; and the explication of which appears to be, that the strong unnatural pressure he was led to bring upon these lower parts of the foot, did so irritate and inflame them, that they became more easily susceptible of fracture than would be natural to them, and easy fracture is well known to be the case with all inflamed bones, such being often experienced and seen in cases of acute rheumatism.

I well remember, about the year 1796, whilst living with my brother at East Moulsey, near Hampton Court, being sent for to a gentleman living a few miles farther up the river, at Walton-on-Thames, who, one morning, sent me a note requesting to consult me on what he called a bad strain of the leg, which he had got the day before in walking on Sunbury Common, by simply tripping his toe against a small tump in the ground. On examination, I told him his leg was fractured—the main bone of the leg—the tibia. He could not, however, from my representation, be made to believe it, till Boon, the surgeon, was sent for and confirmed it, without knowing my sentiments. This gentleman was subject to attacks of inflammatory rheumatism, which probably caused the brittleness and easy fracture of the bone. So it is probable that considerable inflammation may attend all the parts concerned in this nucimalous disease, ere actual ulceration takes place; and in which state, there is no question fracture of the bone would be rendered more easy.

Lafosse has given also some obscure accounts of this erosive disease, but, what is singular, inverts in every case, the order of the parts and their appearances. (See the translated edition, 8vo. London 1751, from p. 20 to p. 25. His descriptions are truly rude and coarse, but evidently relate to this complaint, and exhibit, with the rest of his book, a most woeful state of the art in France at this time, and, no doubt, everywhere else not much better. The cruel abomination of unsoleing the horse's foot, was also very much resorted to by him at this period.

And as to the scandalous cruelty of unsoleing the horse's foot, we are much inclined to believe that every object obtained by it, can equally well be obtained by reducing the sole to extreme thinness and flexibility, so as to have little or no resistance, especially if kept moist after; and such, we have thought, might have very good effects in the treatment of this insidious complaint, by much diminishing the force of pressure upon the diseased parts; and in such case it may be well also to excavate deeply, and almost to remove the inflexions too, as they are exhibiting perhaps, a more severe disposition to carry pressure to this bone than the sole; and that a considerable relief might result from such abstraction, in recovering the parts and healing the ulcers. Perhaps some slight kind of strut, or bar, should also be inserted, though very cautiously, to prevent the wall from collapsing upon and confining the exposed parts; for it has a natural tendency, when all obstacles are removed, to a collapse. Mild, soothing ointments should also be used to all the parts concerned, to prevent their getting at all dry and hard. In this way, we apprehend, a greater progress may be made in the healing of these sores.

Such treatment as this, with the other propositions we have formerly recommended, (see Pod. pl. xii.) we believe to be far preferable to running knives and seton-needles through the body of the frog, and inserting corrosives therein. But the worst circumstance attending this complaint at the present day is, that we possess no positive and certain indication or symptom by which it can clearly be known to exist; so that it leaves a miserable door open for the pretences and practices of the less honorable part of the profession.

And it is truly marvellous often to see how people will implicitly trust their horses in the hands of the most unskilful and ignorant of Farriers, with the utmost indifference and carelessness as to what they are going to do to them; aye, with more confidence than they would to men better qualified: as though ignorance was a recommendation, and grossness a qualification, for the art of horses, which would appear to come from old prejudices in favour of the mysteriousness of this art, and of the superior skill of bold, and ignorant, and more noisy pretenders, which by long habit has obtained a sort of prescriptive right. Aye, and what is as singular, when, by the grossest practices, they have ruined them too, they seem quite quietly to acquiesce in it, and without making much, or any complaint, or showing any resentment.

And not only is it certain that fractures result more easily to inflamed parts, which will help us to explain the frequency of their occurrence to Lafosse more than other practitioners, from his inflaming the parts by an unnatural degree of pressure brought upon them; but also from the animal, under painful suffering in the parts, not permitting such to come fairly to the ground, and into their respective intentions and offices,—the animal averting the pain, and trying to avoid a portion of it by a shifting, oblique, and irregular action of the limb and foot, thus inducing the fracture of the bone; as we see any awkwardness in walking, or dancing, will also do it: as is not unfrequently the case of the Tendo Achilles, when, not used harmoniously with the other parts, has been often snapped.

Further, on this subject, it may be well here to notice that in the fixing on of a bar-shoe, if it should rest strongly on the furch, it will be very liable to irritate and inflame the parts above; and more especially so, if the horn has been previously cut, disfigured and dried, and become hard, so that, instead of being a defence, it will act as a solid hard body thrust against these very tender parts, and which circumstance would seem well to deserve due care and attention.

XI. STREET, OR KENNEL-NAIL CASES, &c.

For our views respecting these lamentable cases, the reader is referred to the “*Podonomia*,” p. 135, 2nd edition.

XII. ON CHIPPINGS, AND FRACTURE OF THE COFFIN-BONE.

By chippings I understand small injuries to the fine exterior edge of the coffin bone by nails driven too close, or into the bone itself. On examining coffin bones after death, indentations from the pressure of nails and injuries of this sort, are often seen. A free exposure, by removal of the hoof from the parts offended, and resinous digestive, appears to be all that is required.

On a fracture of the coffin bone itself it is usual at the present time to kill the animal; yet we believe means might be resorted to for preserving life, and effecting a cure, especially when the horse is of great value, or estimation.

In attempting this it would appear to be necessary that the more elevated and leading practitioners of the veterinary art in great towns, and especially cities, should always be provided with a convenient sledge for the removal of a horse having the misfortune of a fracture of any kind; and on being conveyed home, for they are at present obliged to be killed on the spot, there being no power of removing them; and for the accommodation of such when arrived, there should be a stall, or proper place, set aside and prepared ready for slinging him, and putting the case in a proper state for recovery.

In a coffin bone fracture it would appear advisable that all necessary care should be taken to keep the parts easy, and to fully allow of the swelling that attends all fractured bones, by the thinning, and in some places dividing the hoof down to the quick, and the applying poultices and unctuous matters to keep the parts as free from restraint and irritation as possible, in order to form a healthy callus. And it is not impossible that a coffin bone case might be cured without slinging at all, by having a stout splint carried round the leg and attached also to the muscular parts above, and descending a little below the foot, it might then serve him for any momentary resting upon, at other times standing on three legs.

The greatest difficulty in these cases however is, to know the nature and extent of the fracture; in ascertaining, or conjecturing rather, upon which, the circumstances and manner of its happening will afford as good a clue as any, on which must greatly depend the hopes of a useful cure.
